

XV.  
men  
in."  
the  
end.  
ys"  
s of  
ish-  
orn-  
w—  
one

Port  
s, an  
have  
man-

copy of  
report-

on do-  
mend-  
to un-  
aying  
ature  
hope  
reels.  
, and

pam-

at the  
is, of  
le and  
Eng-

res-  
Hut-  
es D.

on, at  
of Dr.

at the  
mbree  
ough-

thy's  
xton,  
Miss

blood-

Oct.

Octo-  
ass &  
ntha  
10th,

THE  
MEDICAL AND SURGICAL REPORTER.

No. 766.]

PHILADELPHIA, NOVEMBER 4, 1871.

[Vol. XXV.—No. 19.]

ORIGINAL DEPARTMENT.

COMMUNICATIONS.

SOME RECENT INVESTIGATIONS AND  
SPECULATIONS CONCERNING THE  
FUNCTION OF THE COCHLEA.

BY SWAN M. BURNETT, M. D.,  
Knoxville, Tenn.

[Read at the annual session of the East Tennessee Medical  
Society, held at Knoxville, Oct. 13, 1871.]

Concerning the physiology of hearing, no very definite ideas have been held until within very modern times. The notions most generally prevalent were, that we perceived sensations of sound through some peculiar property resident in the auditory nerve, just as we perceived the images of external objects through some peculiar property of the optic nerve, or were possessed of the sense of taste through another peculiar power belonging to the gustatory nerve.

What these peculiar properties were was a problem the physiologists could never solve with any degree of satisfaction, but classing them with other phenomena of equal obscurity, they called them *vital* properties, utterly ignoring any physical principles that might be involved. But the invention of the ophthalmoscope by HELMHOLTZ, and the great advances made by him, DONDERS and others, in the study of physiological optics, by which the laws of vision were placed upon a physical basis, and made amenable to the general laws and principles of optics, gave an impetus to study and investigation in this direction, and led us to think, reasoning from analogy, that we would be able to explain the phenomenon of hearing by the application of the principles of acoustics.

HELMHOLTZ accordingly began to make investigations on these principles, and it is to

him, more than to any one else, that we are indebted for our present ideas regarding physiological acoustics, and it is to the elucidation of his theory, more particularly that part of it concerning the function of the cochlea, that we direct our attention at this time.

These theories having, as we have said, a basis, for the most part in physical principles, it is highly necessary for a proper understanding of them that we have a correct anatomical knowledge of the parts.

The *cochlea*, so named from its resemblance to a snail shell, is situated horizontally in front of the vestibule, its apex being directed forward and outward, and its base corresponding to the anterior depression at the bottom of the internal auditory canal (GRAY).

It consists, essentially, of a bony canal winding spirally around a central cavity (the *modiolus*). Its length is about one-fourth of an inch, and its breadth at the base is about the same.

The *spiral canal* takes two turns and a half around this centre, decreasing in size as it ascends. At its commencement it is about one-tenth of an inch in diameter, and in length is about one and a half inches, measured along its outer wall. At the apex it terminates in a *cul-de-sac*, called the *cupola*. In its interior it is divided by a partition into two passages. This partition is called the *lamina spiralis*, and consists of two portions, an *osseous*, which two thin plates of bone, slightly separated from each other, arising from the sides of the canal and extending into its cavity, and a *membranous* portion, which connects the osseous portion from each side, thus making the division into passages complete. These passages are called *scala*. One of them, opening by

means of an oval aperture into the vestibule, is called the *scala vestibuli*, and the other, opening into the cavity of the tympanum by means of the foramen rotundum, is known as the *scala tympani*. The two *scalæ* communicate with each other at the cupola by means of an opening, called the *helicotrema*, which is only a deficiency of the lamina spiralis for the last half turn.

The *modiolus*, or central cavity, is conical in form, and extends from the base to the apex of the cochlea. At its base, which corresponds to the first turn of the spiral canal, it is perforated by a number of minute openings for the transmission of the filaments of the cochlear branch of the auditory nerve. Its outer surface is formed by the wall of the spiral canal; its centre is channeled as far as the last half coil (of the spiral canal) by numerous branching canals, which transmit nervous filaments in regular succession into the canal of the cochlea, or upon the surface of the *lamina spiralis*. (GRAY.) A large channel occupying the centre is called the *tubulus centralis modioli*.

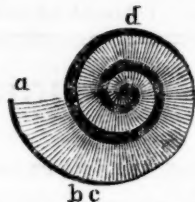
The cavities of the *scalæ* are lined by a fibro-serous membrane, which serves, at the same time, as periotestum and secreting surface. Its secretion is known as the "aqua labyrinthi," "perilymph," and "liquor notugni," which fills the cavity of the spiral canal. This fluid fulfills the important office of conductor of vibrations, transmitted to it by means of the *membrana tympani*, chain of ossicles, etc., to the expansion of the nerve upon the *lamina spiralis*.

I would call special attention to the manner of arrangement of the nerve fibres upon the membranous portion of the *lamina spiralis*, as it is the foundation stone on which the theory of HELMHOLTZ rests.

The cochlear branch of the auditory nerve enters the *modiolus* through the small openings at its base, and, as it ascends, gives off filaments in regular succession, which, after passing between the two plates of the osseous *lamina spiralis*, are finally distributed on the underside of the membranous portion of the spiral partition.

As the spiral canal decreases rapidly in size from the base to the apex, it will be readily perceived that the filaments or cords will also decrease rapidly in length, very much after the manner of arrangement of the strings on a piano or harp. The accompanying diagram,

which represents the spiral canal of the cochlea laid open, will show the manner of arrangement of the fibres. "a" represents the spiral canal, and "b," "c" and "d" designate some of the filaments of the acoustic nerve as they are distributed on the membranous portion of the *lamina spiralis*—decreasing gradually in length from the base to the



apex of the spiral canal. This arrangement has been called after the name of its discoverer, "CORTI'S ORGAN." The strings of the "organ," lying loosely on the membranous partition in contact with the *aqua labyrinthi*, are in a situation to respond readily to the least undulatory motion of that fluid; and as the "aqua labyrinthi" of the cochlea communicates with the fluid in the vestibule, this in its turn through the chain of ossicles and *membrana tympani* with the outer air, the circuit is complete for vibrations from the atmosphere to the terminal expansion of the auditory nerve in "Corti's organ."

The cochlea, according to the theory of HELMHOLTZ, is the seat of the perception of musical tones, and the organ of Corti, a miniature stringed instrument having a fibre tuned in unison with every tone in the musical scale; the long cords, or filaments at the base, corresponding to the lower octaves, and the shortest cords to the higher octaves. When any note, therefore, as for instance "a," is sounded, the vibrations comprising that note are conveyed to the "aqua labyrinthi," and from it communicated to the fibre that is attuned to that number of vibrations, which in the diagram we will call b; if "c" is sounded, the cord c will respond, and so on through the whole scale. The sensation of the note sounded will be conveyed by means of the filament to the sensorium.

The question may be asked: "Why do not all the fibres in contact with the fluid become affected at every undulation, instead of a particular one?" An explanation may be found in the fact that when a tuning fork of a certain pitch, say "c," is sounded near a piano or harp, the string that is tuned to that note

will be set in vibration, whilst the remaining ones will be unaffected. If we seek for an explanation on *physical principles*, it may be found in this: That this number of vibrations is *normal* to that particular string, and consequently it readily answers to the undulations of the atmosphere corresponding to that number, while those strings that are not so attuned cannot respond, because that number is *abnormal* to them; for a string of a certain tension, however feebly it may vibrate, can only make a certain fixed number of vibrations per second, and if it cannot make that number it cannot vibrate at all.

There are some physiologists, prominent among whom is GOLTZ, who hold that the cochlea is the seat of the perception of *all* sounds, and is, consequently, the sole and exclusive apparatus of hearing. This opinion he founds upon some experiments made by FLEUORENS and repeated by himself, in which it was found that, when the cochlea was destroyed, the semi-circular canals remaining intact, perception of sound was entirely lost but that when the semi-circular canals were injured or destroyed, and the cochlea remained uninjured, the hearing power seemed to be unimpaired, but other phenomena, of an entirely different nature, presented themselves, viz., vertigo, and a want of power to preserve the equilibrium of the body. Although this theory is very plausible, and the experiments make some show of proof, still we think they do not furnish sufficient data on which to found a positive opinion. It opens up, however, a wide and interesting field for observation and study, both for the physiologist and pathologist, and has an importance to general medicine aside from the speciality of otology.

Owing to the deep-seated situation of the cochlea, and the delicateness of its structure, it is impossible to make any direct experiments upon it, and, consequently, for the substantiation of this theory, we must depend mainly upon indirect evidence, and especially that derived from pathology. But, as pathology is but a perversion of physiology, we may be able, from the action of an organ in disease, to form some idea of its function in health.

There are several diseased conditions of the inner ear that throw important light upon the physiology of the labyrinth, and point out with tolerable distinctness the function of

each of its divisions. I shall confine myself at this time, however, to those only which have a bearing upon the function of the cochlea.

From the experiments of FLEUORENS above referred to, and which have, in a great measure, been corroborated by HARLESS, CZERMAK, BROWN-SÉQUARD, VULPIAN, GOLTZ, and TROUSSEAU, it will be seen that the cochlea plays an important part in the function of audition, but they furnish no evidence that it is the sole seat of the perception of musical tones as is maintained by HELMHOLTZ.

There is a disease of the internal ear, characterized by a set of peculiar but very marked symptoms referable to the ear and head, called after the one who first described it MENIERS' disease. Deafness, partial or complete, is one of its constant accompaniments. It is generally an affection involving the whole of the labyrinth, the semi-circular canals, vestibule, and cochlea. In only a few of those cases have *post mortem* examinations been made, but in those the vestibule and semi-circular canals have invariably been found affected, and the cochlea nearly always.

A peculiarity observed in several of these cases, especially those reported by KNAPP (*Archiv. Oph. and Otol.* 1. 2. s. 365.), is the deafness to certain tones of the piano. Thus in one case the patient could distinguish the lower and middle octaves of a piano, but not the higher, although the higher were sounded much louder than those below; the limit was abrupt, the fourth "d" being heard, but the "e" above could not be heard at all, no matter how loudly it was sounded. In two other cases the middle octaves alone were heard, but neither the highest nor lowest. Here is a condition capable of being elucidated in a rational manner by the theory of HELMHOLTZ. The morbid process could not have been in the auditory nerve itself, or in the cerebral centre of an audition, for as KNAPP says (*Archiv. Oph. and Otol.* 1. 2. p. 236.) "it would be absurd to assume a tumor or other morbid product pressing simultaneously on two opposite sides of the acoustic nerve leaving the centre intact. It would not be less absurd to assume that some pathological process had acted upon two opposite portions of the centre of audition in the brain, leaving the centre intact." *The pathological change must then have been in the expansion of the nerve in Corti's*

organ, and have affected those fibres of it corresponding to the missing tones. Those fibres, say below *c* in the diagram, and those above *d* must have been interfered with, while those intermediate remained intact. The diagnosis by exclusion in this case is conclusive.

There is also another very interesting anomalous condition of hearing that can be easily and beautifully accounted for by this theory.

is called by KNAPP, who has recorded a case and written a very able article upon the subject—(*Archiv. oph. and Otol.*; 1, 2, page 365) by the classical name of “*diplocusis binocularis*” from its striking analogy to “*diplopia binocularis*,” or double vision. In this disease the same note is heard by each ear as being of a different pitch, the difference ranging from a half to two or three notes: in other words, as its name implies, it is *double hearing with both ears*. Each ear separately hears the note with clearness and distinctness, as each eye in diplopia has a well-defined image, it is only when heard together that confusion occurs.

This interesting phenomenon admits of a satisfactory explanation as follows:—

Corti's organ in both ears represents, as we have seen, two instruments in perfect tune, each note that is sounded being perceived by both organs as of the same pitch, for instance, when the note “*a*” is sounded, the cord in both cochlea that corresponds to the note “*a*” will be affected, and the sensation will be conveyed to the sensorium as one tone; as in the analogous case of the eye, where, although each eye has a separate and distinct image, the mind only takes cognizance of one—that is to say, we have “*binauricular audition*.”

Now suppose that the cord in the right organ of Corti that is attuned to the note “*a*” (*b* in the diagram), should become tightened from any cause, as from an inflammatory exudation, pressing upon it. According to the laws of physics it will no longer respond, as usual, to 9,600 vibrations per second, but will respond to a higher number, and just as much higher in proportion to the increased tension of the cord, for we know by increasing the tension of a violin string we can heighten its pitch from three to five tones.

Suppose then, again, its increased tension would cause it to vibrate to 11,520 undulations per second, the exact number that constitutes the note “*c*” above (*c* in the diagram). If

now the note “*c*” be sounded, the cord in the healthy ear that is attuned to “*c*” will respond, and “*c*” will be perceived by the sensorium; but in the diseased ear the cord that responds is *not* “*c*,” but the cord that has always responded to the note “*a*” (*b* in the diagram). The brain has always hitherto been accustomed to refer all sensations received from that cord to the note “*a*” and does so yet, consequently while the note “*c*” is heard in the healthy ear “*a*” is still heard in the diseased ear, and double hearing is the result. Any number of cords may be thus thrown out of tune. When the cord is *relaxed* the reverse of this takes place and it is called *false lower tuning* of Corti's organ. The condition we have described is called *false higher tuning*.

*In the former condition the pseudo tone will be lower, and in the latter it will be higher than in the healthy ear.*

From a study of these facts we may fairly conclude:

1st. The cochlea is the seat of the perception of musical tones; that the organs of Corti in both ears are two stringed instruments tuned in perfect unison, and that the simultaneous vibration of the corresponding cords in each ear conveys to the sensorium the impression of one sound (binauricular audition), bearing a striking analogy to binocular vision, which is produced by the irritation of corresponding percipient elements of the retina in each eye. This theory is certainly worthy of consideration, being supported as it is by so many facts in pathology, and because it attempts to account for the phenomenon of hearing by the application of the general principles of acoustics.

2d. It is probable that the cochlea is the seat of the perception of *all* tones and is the only portion of the labyrinth concerned in audition. The proof adduced however, is not, conclusive, and the question is still an open one.

But there may be those who will ask concerning these investigations and speculations, “*cui bono?*” Is the therapeutics of ear diseases advanced by any of them? Is any practical good to result from them? To these I would reply: That an accurate pathology must always precede a rational therapeutics, and in order to a correct pathology we must have some definite knowledge of physiology.



"Diplopia binocularis" it was beyond the skill of the surgeon to relieve until the laws of binocular vision were understood. But no sooner was binocular vision found to depend upon certain relations of the optic axes to one another and which were under the control of the ocular muscles, than the remedy at once presented itself. The great field of ocular pathology is just being opened. Physiologists and men of science no longer deem it beneath their dignity to investigate upon the subject. Additions are being constantly made to our knowledge of this branch of medical science, and the time will come when the physiology of hearing will be as thoroughly understood as the physiology of any other function, and upon this we will build up a pathology and therapeutics as satisfactory as in any other department of medicine. Any new fact therefore having a bearing upon the subject should be carefully considered, and given all the weight to which it is entitled. By so doing we will rescue this important branch of our art from the sloughs of empiricism, and give it that place in scientific medicine where it justly belongs.

## HOSPITAL REPORTS.

### JEFFERSON MEDICAL COLLEGE.

Surgical Clinic of Prof. GROSS.

October 11, 1871.

[REPORTED BY DR. RALPH M. TOWNSEND.]

#### Ranula.

When John Neath speaks, it is in a croaking kind of voice; and when he opens his mouth, a grayish, translucent tumor, like the belly of a frog—whence the name ranula—is seen bulging from underneath his tongue. The growth is painless, but it interferes with mastication and speech. This is essentially an encysted tumor, caused by stoppage of the excretory ducts of the sublingual-salivary gland. The accumulated saliva by its pressure provokes interstitial deposits, *i. e.*, plasma is effused, and the walls of the tumor in this way become thickened. The contents of a tumor like this will be found to be glairy andropy—something similar to the white of an egg. Here and there the tumor looks vesicated, which is owing to the greater thinness of the cyst in some situations. This patient is 23 years of age, about the right age for this affection, as it is generally found occurring between eighteen and thirty.

Such a tumor as this might burst, and palliate, and, possibly, a spontaneous cure, en-

sue. Generally, however, an operation is required for its radical cure. Various operations consist in the injection of irritating substances within the sac of the tumor, so that obliterative inflammation may be provoked. Setons are also used for this purpose. When a tumor, however, obtains the size of the present one, excision of a portion, or, better, the entire sack, is the treatment; because the smallest portion of sac left oftentimes aids in the development of the tumor.

The entire tumor, partly by dissection and partly by enucleation, was then raised from its attachments and removed. No bleeding, of sufficient quantity to warrant ligation or the application of styptics, followed. The parts were brought together with a few stitches of the interrupted suture; and, after details as to diet and care, the patient was dismissed.

#### Tertiary Syphilis.

Mrs. M. B., only 28 years of age, presents herself with a disease that has left only hideousness in place of the once fine proportions of her face. She has alopecia, having lost almost her entire head of hair. There is a red fluctuating spot, just at the edge of the scalp—a gummy tubercle, an affection observed in connection with syphilitic disease of the bones and periosteum. There is a marked depression in the centre of this patient's forehead, with that form of granulations, which points to the existence of dead bone. A mass of exuberant granulations are also observed at the inner portion of the orbit. Finally, disease of the internal face has caused the falling in of the nose.

The characters of this affection are so plainly written as to render a mistake in the diagnosis impossible. The kind of disease is revealed at a glance. It is syphilis in its third stage.

This poor woman has a slight offensive discharge from her nose. Her hair commenced falling out simultaneously with appearance of the gummy tumor on her forehead, one month ago. She has no pain now, but formerly it was intense, but was unattended with exacerbations at night, or in damp states of the weather. Her appetite is variable; her bowels are regular, but she suffers from flatulence, and has lost flesh.

Pressure made upon the fluctuating point on the forehead causes the discharge of matter at the ulcer at the inner portion of the orbit. A sinus evidently exists here.

Prof. GROSS stated that he presumed the matter from these various sores was inoculable, although there was a time when this was questioned, the primary sore being thought to furnish the only inoculable matter. Subsequently, the pus and other discharges from secondary syphilitic affections were proven, beyond all doubt, to be inoculable; and now, many cases are on record where inoculation has been done from the matter furnished by tertiary lesions.

*Treatment* here will consist in a nourishing and concentrated diet, such as chicken, lamb, mutton, or oyster broth, fish, oysters, milk, etc. The patient will eat no salt food or pastry, nor drink any coffee. She will also have, in solution, three times daily, fifteen drops of the syrup of the iodide of iron, five grains of iodide of potash, and the one-tenth of a grain of the corrosive chloride of mercury, one hour after meals. She will also have three milk punches a day, each one to contain an ounce of good whisky. She will be allowed to take free exercise in the open air, but must be careful not to stand, while thus exposed, long on one spot, and must be warmly clad. Strict attention to these directions will make a perfect change in her condition in two weeks.

#### So-Called Scrofulous Ophthalmia.

T. H., *et. 11 years*, came to the clinic on the 27th of last May, on account of an affection of the nose that very much resembled epithelioma. Some points of his history, however, pointing to specific disease, caused him to be placed under treatment that would best meet the requirements of that disorder. He took the one-sixteenth of a grain of the corrosive chloride of mercury, three times daily, along with the iodide of potassium and the syrup of the iodide of iron. His nose, which was ulcerated down to the cartilages, and scantily covered with unhealthy granulations, was touched every fourth day with a solution of the acid nitrate of mercury—one part of the latter to fifteen of water. This patient reports to day with his nose entirely healed, thus verifying the truth of the diagnosis. He suffers, however, to-day, from an affection of the eyes, which, if nothing of his previous history was known, would probably be *d-nominated strumous ophthalmia*! "But," said Prof. Gross, "call it what you will, this is nothing but another outgrowth of this specific poison in his system. So we find in many of these so-called cases of strumous ophthalmia nothing but inherited disease; hence, the longer I teach, observe and practice, the more I doubt the existence of scrofula—pure and uncomplicated!"

For the first seven days this patient will take, in solution, three times daily, the following:

R. Quinæ sulphatis, gr. iss.  
Morphiæ sulphatis, gr. 1-24. M.

Quinia in these affections seems to act almost like a specific. After the photophobia is relieved, this boy will again be placed under specific treatment.

#### Gummy Tubercle of the Hand.

Quinn, 28 years of age, has a swollen hand, discolored, preternaturally hot, and with all the phenomena of inflammation; says it was caused by falling on the curb-stone; there is pain in the part, and it is aggravated at night. This swelling came on three months ago—so did the fall; he has had chancre and bubo; the latter never suppurated; the sore on his penis

lasted three weeks, and was originally composed of four or five sores that suppurative and ulcerative action coalesced; there was not much discharge from these sores, and the bubo existed only in one groin; he has also suffered from sore throat and skin affection, that was not extensive, and alopecia.

There are two kinds of chancre, the hard and soft, the latter now called chancroid or chancre-like: just as BENNETT calls epithelioma cancrroid or cancer like—a very ridiculous expression. The soft chancre is superficial, frequently multiple, attended by copious discharge, and is extremely liable to be followed by bubo just *above* Poupart's ligament, in one or both groins.

The true, hard or Hunterian chancre is usually solitary; feels like fibro-cartilage; it is not followed by bubo as often as the soft chancre, and the discharge from it is scant.

Some syphilographers say the chancroid never contaminates the system, but Prof. Gross stated he did not subscribe to the duality of syphilitic poison. The poison from both these sores is the same precisely, but is influenced in its effects on part and system by the condition of part and system! This man illustrates these remarks. He had soft or multiple sores and we have them followed by constitutional syphilis in its third or tertiary stage. The fall which the man complained of receiving on the hand may have predisposed to the occurrence of this outbreak.

The treatment consisted in painting the inflamed part with dilute tincture of iodine, and wrapping up the hand in a strong solution of acetate of lead and powdered opium. Internally, the patient was placed upon the use of eight grains of iodide of potassium, the one-tenth of a grain of the corrosive chloride of mercury, and twenty drops of the tincture of the chloride of iron, to be given in a solution of equal parts of syrup of orange peel and water, three times daily.

## MEDICAL SOCIETIES.

### CALIFORNIA STATE MEDICAL SOCIETY.

The State Medical Society met in the Senate chamber, Sacramento, at 1:50 P. M., Oct. 11, 1871, the President, Dr. LOGAN, in the chair.

Dr. A. B. NIXON, Chairman Committee of Arrangements, reported, and delivered an address of welcome, from which we make the following extract:

Medical men everywhere are following more closely the paths of nature in their pathological researches. By the aid of the microscope the normal and healthy condition of the bones, soft tissues and fluids of the body are distinguished from those that are unhealthy

and diseased. Diagnoses arrived at in this way amount to almost, if not quite, positive evidence. By all means we should try to know the truth, and until it is revealed to us by science we should ever remain unsatisfied. Miracles are not much thought of in our days, and it is sincerely to be hoped that the days of superstition in regard to medicine, if not in everything else, are rapidly drawing to a close. Life, health, sickness and death are all controlled by natural laws fixed and inexorable. But there is no stand-still point in all nature's vast domain. Everything is changing by the powers of natural laws. Hoping that our society may continue to flourish, and that its members may have many pleasant reunions, I now announce that the society is ready for the transaction of the business of this, its first annual session.

Dr. H. Gibbons, Sr., was elected President.

Drs. Stout, Shurtleff, Hatch and Todd were elected Vice-Presidents. Dr. Stout resigning, Dr. Montgomery was elected.

Dr. W. T. Wythe was elected, unanimously, Corresponding Secretary.

Drs. Cushing and Grover were elected first and second Recording Secretaries.

#### REMARKS OF DR. GIBBONS ON TAKING THE CHAIR.

Dr. Logan, the retiring President, introduced Dr. Gibbons, who spoke as follows:

If I had ever doubted my being a diffident person, the doubt was dispelled by my feelings on the present occasion. You have done me an honor which I appreciate the more highly because it is your voluntary offer, unsolicited on my part. I will not occupy the valuable time of this session by any extended remarks, but content myself by promising to emulate my predecessor in advancing the interests of this society, though I cannot expect to equal him in industry and efficiency. Your aid individually will be indispensable to me, and I shall strive to requite it by the kindest regard and consideration for every professional brother.

The board of censors reporting favorably, Dr. Anderson Strong, St. Louis Medical College, 1860, and Dr. Thos. Ross, of Woodland, McGill University, 1863, were unanimously elected members of the society.

Dr. Stout was unanimously elected Treasurer of the society.

On motion the election of board of censors was postponed until the place of next meeting is selected.

The minutes of the adjourned meeting were read and adopted.

Dr. H. Gibbons, Sr., chairman of the committee read a report on Practical Medicine.

The President introduced Dr. Logan, the retiring President, who delivered the anniversary address, a part of which is here given:

At the meeting before the last of the American Medical Association it was resolved, "That each State society be requested to pre-

pare an annual register of all the regular practitioners of medicine in their respective States, giving the names of the colleges in which they may have graduated, and date of diploma or license." A recent number of the *Medical Record* states that the Medico-Historical Society of New York has procured a complete registration of all the regular physicians of the city and county of New York, and adds: "The benefit of this same registration has been incalculable to the profession of the metropolitan district. Every right-minded and honorable practitioner is in favor of it, and it is only those who have heretofore and do still show themselves unworthy of being in good company, that speak against it.

The sentiment of the profession here in regard to the usefulness and reliability of the system is such that there is no question as to the standing of those in the list, while a great deal of suspicion attaches to those whose names do not appear—a suspicion, which, considering the care with which the work is done, cannot be explained on the score of the mere accident of omission. Aside from cementing the interests of the profession and preventing a misunderstanding as to the true relation of physicians to each other and to the community, numerous examples could be shown in which it has exercised a most salutary influence upon such as would otherwise have defied all restraint, admonition and discipline. In a word, it is the silent censor of the profession, which, while it never condemns, never speaks well of any one unless he is deserving of it. Another consideration also commends this scheme to our favor. The public have no means of discriminating here like they are enabled to do in Europe, between the properly qualified physician and the mere pretender; inasmuch as, in this free country, any and every one has a right to make himself a doctor, by simply attaching a sign to that effect on his door, regardless of his education or qualifications.

Without further discussing the importance of this matter, I would recommend that the society shall endeavor to procure annually, to be published in our transactions, and in some other form accessible to the public, the names of all the regular physicians in the State, and for that purpose that a committee, consisting of one from each county here represented, be chosen at this meeting. I beg also to suggest as a means of doing much good among us, as well as of creating a bond of union between physicians in every part of the State, the incorporation into the society of a mutual aid for widows and orphans of deceased members. The basis of the method referred to is that of coöperative combination, and appeals to our sympathies and to the kindest feelings of our nature. Let it not be said of the physician who spends his whole life in preventing and mitigating suffering that he shrinks from a duty so solemnly imposed upon him by every obligation of hu-

manity and the common brotherhood of a benevolent profession. For full details concerning the rate of assessments, initiation fees, form of constitution, etc., I refer you to the twentieth volume of the Transactions of the American Medical Association.

The relation which the profession sustains with regard to trials by jury, in which medical testimony—or rather an opinion as an expert—is required, calls for some immediate action on our part. As is well known to you, there are two kinds of witnesses, ordinary and skilled, or those who testify only to what they have seen, and those who have no personal knowledge whatever of the case, but are supposed to possess a peculiar fitness for an expression of opinion upon the question at issue. It is to medical men, acting in the latter capacity, that I am now referring; and the incompetency of those who are generally selected by advocates or the purpose of bolstering up their cause is bringing discredit upon us.

It seems a great absurdity to introduce any expert as a witness. Under no interpretation of the term can the medical man be regarded as such. He is rather the *amicus curiæ*, and should have his status clearly defined; he should be freed from alliance with either party, and give his opinions always in writing, and upon an agreed statement of facts. In other words, he should arbitrate and not testify. So long as the expert is introduced as a witness, the opposite party has the right to confront and cross-examine him; and however influenced the lawyer may be by the best and most laudable intentions, he frequently from sheer ignorance propounds his interrogatories in so unscientific a manner as to defeat the very end he has in view.

The idea of an expert being cross-examined, for the purpose of testing his professional knowledge, by a layman, is not only unphilosophical, but absolutely ridiculous. "The entire effect and benefit of his participation in any trial," says Ordonaux [Vol. xx., Trans. Am. Medical Association, p. 577], whose views I here adopt, "is thus mutilated, deformed and nullified by the legal paradox, which assumes him to be a witness. Witness to what? His own opinion, only. In order to obviate the effects of these contradictions in the laws of evidence—since, while the expert is called to express an opinion, he must yet utter none which sounds to a determination of the case at issue—it would be well, for it is entirely possible, to remove all experts from the field of testimony and place them in that of arbitration, so far as any particular scientific question is to be decided. For this purpose, whenever a scientific question arises in an action at law, whose solution is material to the determination of the matters in issue, let a feigned issue be made on this point and referred for judgment, upon evidence agreed upon, to three experts, one to be selected by each party litigant, and the third by the court;

such experts to sit and determine at once the question in dispute, and their opinion to be received by the jury as conclusive of the issue tried by them."

The advantages to be derived from such a procedure will at once be apparent to any one at all conversant with the subject, and exempt the medical expert from the annoyances, vexations and irritations of a personal discussion with counsel. To meet the requirements in this case, as well as in other cases to be brought to your notice, I would recommend the appointment of a legislative committee. Let a simple clause be introduced into existing codes of procedure, or a special statute be enacted with a provision for a reasonable fee to be paid to the experts whose services are required. The same committee might also urge the propriety of having our transactions published by the State, as is done in some of our sister States. This is only our due; and we have the same right to its recognition as the agricultural and other interests. All that contributes to the general welfare inures to the benefit of the State. Why are we here assembled now? Why do our medical societies meet monthly and oftener, at the sacrifice of our time and business? It is for the advancement of science—for the public good.

My attention has recently been called, by a correspondent in Alabama, to a report of a special committee, appointed by the Mobile Medical Society, on the question of exacting fees for a certificate as family physician to applicants for life insurance. The committee think that the profession are authorized in making charge for this service, and that proper professional respect urges them to do so. Their reasons for so doing, as set forth, are that "the proper filling out of such certificate demands the physician's time, which is always valuable to him. It demands accurate professional knowledge, which is his capital; and it involves considerable responsibility, which is always taken into account when adjusting the value of his services. It is, therefore, a reasonable and legitimate charge."

\* \* The certificate of the family physician is required by the life insurance company. It is affirmed to be a prerequisite to life insurance; it must, therefore, be of some value, inasmuch as the contract between the company and the applicant cannot be perfected without it. If the insurance companies consider it so essential and of such value, then, certainly, they should be willing to pay for it. But if it is valueless to the company, then it must be valuable to the applicant, in which case he should be willing to pay for it. Again, let us view the question from another stand-point—that having reference to the principles of professional obligation.

The family physician's certificate is of especial importance when the family physician is in possession of some knowledge as to the past history and sanitary condition of the ap-



applicant, not easily discovered by the medical examiner. But knowledge of this kind is for the most part obtained in professional confidence, and the physician has no right to make a public disclosure of it, and no right to use it to the detriment of his patrons. In such cases the position of the family physician is one of considerable embarrassment and delicacy, and more especially so if the applicant be a female. On the one hand is the inalienable respect for the truth, which every honorable man feels, profoundly urging him to make a disclosure for the benefit of a corporation, essentially commercial in its character, of knowledge gained in professional confidence. On the other hand is the unwillingness to make such knowledge a matter of public record, and an unwillingness to defeat the applicant and his patron and friend in his purpose of effecting the insurance he covets. The only escape for the honorable and conscientious physician from this dilemma is to require from the office which seeks his certificate a written expression of willingness on the part of the applicant that he should make a full disclosure of his professional knowledge. In such cases, not unfrequently life insurance companies are saved from the risk of issuing large policies to parties whom the family physician alone knows are bad risks. Should such companies complain if they get this information for the trivial fee demanded for the certificate?

Considering the ample ability of these wealthy corporations to lose this fee rather than the physician, who dispenses a greater amount of eleemosynary services than the members of any other calling, and in view of other reasons, which will suggest themselves to your minds, the Mobile Medical Society adopted without a dissenting voice a resolution to the effect that they charge all life insurance companies and agencies the same fee for filling up and signing a certificate as "family physician" to the applicant for life insurance, as is paid to the medical examiner of the company. I have brought this matter before you, not only because the same line of argument applies to many other instances in which we are called upon to furnish opinions and certificates gratuitously, and hence considerations of reason, duty, honor and an enlightened self-interest seem to require some action in regard to it, on our part; but, also, because it opens up the subject of the duties of the profession to the public, and of the obligations of the public to the profession.

On the general education of the masses in hygienic matters, Dr. Logan said:

Now, this condition of things should not exist, and the question arises, what is to be done? I reply, let us educate the masses—this is our work for the future.

Too long for our interests and that of our race have medical men ignored this important duty. So filled with dignity has the profession been that they could not stoop to

approach the people through the main channels by which they can be reached—the daily press and public lecture room. "With dull apathy we have seen the followers of most other professions seeking to avail themselves of these elements of power, some for good, some for evil. The clergyman has not trusted alone to supernatural power in keeping alive the truths of revelation and arousing in the people a due respect for its lessons. They have watched with 'jealous care' the education of the young, and from the Sabbath-school to the university they exercise the greatest control. And legislators, through their political organizations, public speeches and control of the press, hold the masses, as it were, in the hollow of their hands."

Now, lest I should be accused of inconsistency or heterodoxy to the ethical doctrines of the National Association, which I have just been vindicating, let me, before proceeding any further, clearly define my position. I do not wish to be understood as advocating any measure in contravention of our code. When I recommend, as one of the ends of widening the usefulness of our profession, the judicious instruction of the people in the fundamental principles of medicine, I do not wish it to be understood that we are to make any selfish or improper use of such means to advertise ourselves or our cases. This, of course, would be derogatory to the character of the physician. But I propose that we should, by all upright measures, try to win the attention of the masses, and, by an energetic effort, to spread abroad correct, intelligible ideas, enable them to judge between the true physician and the mere pretender. In the furtherance of this end, I believe the State Medical Society can and will exert a powerful influence. Such publications as your president is now uttering cannot, I think, be misconstrued—they cannot be tortured into violations of the code. If by any means they can, then let us amend our platform—add a new clause to our ethics, so that we do not prove recreant to that duty, which even our very title of doctors, *teachers*, implies. No wisdom, however mature, could at once have originated a system competent to meet all the exigencies time and progress may give rise to.

As our National Association advances toward the consummation of its purposes, it must be expected that new necessities will arise, and experience in the working of the plans laid out at the first will demonstrate the nature of the changes for adaptation to existing circumstances. It may, therefore, become expedient, in order to carry out fully the measures I propose, to make some alterations in our organic law, and if it does so happen I shall exert myself to the effect that they be made cautiously, wisely and with deliberate forethought as to consequences. But I do not believe that any alteration is required in the premises.

I believe that if, while popularizing our sci-

ence, we also regulate our conduct that it shall itself be proof that we are pursuing our profession as the result of a liberal philanthropy—that we are actuated in all our efforts by an earnest desire for the amelioration of human suffering—in fine, that we are devoted to our science for its own sake, as well as for its objective results, no exception can be taken to such action. Thus would we draw a bright line of demarcation between the physician and empiric, and demonstrate, by our actions, the difference between a profession and a trade; for, “as in the latter,” says an eminent reformist, “the art is rightfully considered as an exclusive means of gain, so the former must inevitably be degraded into a trade whenever mercenary or sordid motives supersede the scientific aim.”

There are many other considerations that may be adduced in support of the views just set forth, but time will only permit me to refer briefly to some of them. It has long been my confirmed opinion, and I am confident you will bear me out in the assertion, that nearly all the evils of life proceed from ignorance, intemperance and profligacy, and that the worst and most unmanageable complications of diseases may be traced to the same causes; in fact, that all or nearly all diseases result either directly or indirectly from infringements of the laws of nature. Now as the sentiment of those who have been actively engaged in contributing to the cultivation of the science of hygiene, and which has ripened into a sanitary aphorism, it has become the imperative duty of every physician to be a preacher of the gospel of life and health, if he has any exalted appreciation of the aims and ends of his calling; and inasmuch as, in the science of health, there are more exact demonstrative truths than in the science of disease, so that duty demands, as it richly deserves, an unbounded share of our professional energy.

As teachers in this nobler work of prevention rather than of cure, we must not only show mankind what the laws of nature are, but how important is a strict adherence to them; in other words, we must, by every means in our power, by example as well as by precept, strive to advance them in the scale of intelligent beings. We must produce in them a general conviction that nature forbids that course of irregular action, and those improper habits and arrangements which obstruct the path of moral and intellectual improvement and lead to mental and corporeal suffering. And by a simultaneous movement, we must further induce them to apply an effectual remedy in a wiser and better distribution of their time, so as to allow a reasonable share for mental cultivation, exercise and relaxation.

This doctrine may not be very palatable medicine for the idolators of mammon—so numerous and influential in the present state of society—but if each one of us, acting in his separate sphere, testifies by his conduct

that necessary business may be compressed within many hours fewer than are now dedicated to that object, and reasonable time for attendance at the lecture-room as well as for amusement and recreation may thus be secured, most wholesome results would ensue. For as the bow must not always be bent, so Providence did not design that the intellect and heart of man should be continually possessed with yearnings after wealth.

It may now be objected by the fossils, the Rip Van Winkles of our progressive science, that medical knowledge, to any degree of practical value, could not be generally imparted by such means as have just been suggested, since the public are ignorant of the technical terms necessary to be used in imparting it; and that it would be descending from our legitimate sphere to become school-masters. To such conservatives, if any show themselves, I would reply that when like Herschel and Tyndall, and Huxley, and Liebig, and other scientists, do not hesitate to descend from their towering heights to teach the people what they ought to know, the physician should be the last to refuse imparting that instruction which is refunded to him in the increased capacity of the people to appreciate his worth.

The public were equally if not more ignorant of the technical terms used in astronomy, microscopy, natural philosophy and chemistry, and yet we find that, through the teachings of these great benefactors of their age, they have acquired already at least sufficient knowledge of the principles upon which these sciences are based to inspire them with confidence and respect; and it is only logical to conclude that the same confidence may be inspired in scientific medicine by like methods of diffusing a knowledge of its principles. As an example of the rapidity with which valuable scientific facts are seized upon and practically applied by the people, I have only time to refer you to the numerous dietetic preparations, now in use, based upon the principles of organic chemistry, and to the numbers, daily on the increase, in every community, who comprehend the necessity of nitrogenous articles of food, when repairs are to be made to the fibrous and areolar tissue, and how important an agency the carbo-hydrogens are supposed to exert, by increasing combustion in the removal of certain morbid conditions of the lungs.

We thus see how ready the people are to receive instruction. They cry aloud for it, and even in some quarters demand that education be made compulsory on our statute book. Shall we alone prove recreant to our duty, both to ourselves and the people? If the people are not educated in the right direction they will be in the wrong. They are being so educated to-day by the hands of quackery, who have poisoned the public mind, even those of ministers of the gospel, editors, lawyers, judges, and legislators.

## EDITORIAL DEPARTMENT.

### PERISCOPE.

#### Causes of Disease.

Dr. H. C. BASTIAN says in an address reported in the *British Medical Journal*:—Amongst the “exciting causes” of disease, there must be many which are to us at present utterly obscure. More especially is this the case with epidemic diseases. There are, undoubtedly, “epidemic influences” concerning which we know scarcely anything, but whose existence is only too surely attested by the history of the great epidemic and epizootic affections.

As FLEMING says, in his *Animal Plagues*, “It has been a matter of common observation from the earliest times, and our history will testify to its accuracy, that wide-spread pestilence in plants, and murrain in animals, have frequently either preceded, accompanied, or followed closely on, those visitations which caused mortality and mourning in the habitations of men, showing an identity of causation, or affinity, which strongly tempts the inquirer to solve the secret of their joint production.” “Causes” of this kind, however obscure, are undoubtedly none the less real. Whilst we may hope, therefore, that increasing knowledge will ultimately enable us to throw more light upon their nature, we may at least feel assured that the efficacy of these “causes” may be increased or diminished by us at will. “Exciting causes” of all ordinary severity require to be supplemented by the action of “predisposing cause” existing in the individual himself before the disease can be generated. Although we are comparatively powerless to rectify mere individual idiosyncrasies, of the very nature and existence of which we may be ignorant, still these constitute a mere fractional part of the predisposing causes which favor the spread of epidemic affections.

These are, in the main, produced in the individual by the operation of the more general exciting causes of disease, such as bad or insufficient food, bad water, and impure air; or they are dependent upon more special causes, such as depressing emotions, excessive muscular exercise, or the occurrence of any unusual amount of degenerative changes within the body. As Dr. Carpenter pointed out nearly twenty years ago, in a very able article on “Predisposing Causes of Epidemics,” these causes are reducible to one or other of three categories: “1, those which tend to introduce into the system decomposing matter that has been generated in some external source; 2, those which occasion an in-

creased production of decomposing matter in the system itself; and 3, those which obstruct the elimination of decomposing matter, normally or excessively generated within the system, or abnormally introduced into it from without.

Now, the common characteristic here is that “any one of these causes will tend to produce an accumulation of disintegrating azotised compounds, in a state of change, in the circulating current;” and observation seems to tell us that either of the causes leading to such a result may, when potent, suffice to assist the spread of epidemic diseases, though two or more in combination lead to much more certain results. Much has been done to diminish the prevalence of these conditions, which act only too surely upon the individual in arousing the ‘predisposing’ causes of disease, though far more still remains to be done. Happily, however, public attention is now becoming slowly aroused to the importance of pure air, pure water, efficient drainage, and wholesome food, as instruments for maintaining the health of the community.

Let us not be blinded, however, by any narrow or exclusive theories which would teach us that epidemic and infective diseases cannot arise *de novo*. Let us, instructed by a broader survey of the facts, assign no such limits to natural possibilities, and not lightly accept theories which lead to supineness, when we ought to be stimulated to exertion. Whilst accepting to the full all doctrines which inculcate the necessity of diminishing the chances of contagion by every available means, let us, full of hope, diligently seek also for the causes which engender even the most contagious of diseases. Prevention of disease is the grand end and aim of medicine; if, then, we have learned from the sad lessons of experience that scarlet fever and small-pox are virulently contagious diseases; if, even in ninety-nine cases out of a hundred, or even in a still larger ratio, both of these diseases are acquired by contagion, then is it all the more important that we should strive to ascertain what are the invariable and immediately antecedent sets of conditions, or states of system, which suffice actually to engender these maladies.

In such cases knowledge and power are most frequently convertible terms. Next to typhus fever, the most fatal of the infective diseases which occur in this country are scarlet fever, small-pox, measles, and whooping-cough. The ravages of typhus in our crowded cities and in our jails have been enormously curtailed, not so much because of its diminished spread by contagion, but rather because

we have learned what are the causes which engender it, and are therefore better able to prevent its occurrence. Let us strive, then, to acquire a similar knowledge concerning scarlet fever, small-pox, measles, whooping-cough, and other contagious diseases, and so endeavor, in the most efficient manner possible, to check the ravages of these *morbi populares*.

#### Excision of the Shoulder-joint for Disease.

Dr. EWENS, of Cerne Abbas, reports in the *Lancet* two cases of disease of the shoulder, in one of which an elliptical incision was made, whilst in the other excision was performed by a modification of the single longitudinal incision, both terminating successfully. The first case occurred in a girl, aged eighteen, who originally suffered from inflammation, apparently of a rheumatic character, of the left shoulder-joint. An abscess formed and pointed at the posterior border of the insertion of the deltoid muscle. Six months after, she was weak and emaciated, with almost complete loss of power to move the arm herself, and forced movement excited great pain. There was a second opening above the joint, when the abscess burst, and both communicated with a sinus leading to the posterior portion of the axilla. No diseased bone could be detected by a probe, but it was shrewdly suspected that disease of the shoulder-joint existed. She was placed on a generous diet, cod-liver oil and iron. The paroxysms of pain were very severe, and as the disease advanced became so violent as to necessitate a frequent resort to hypodermic injections.

At length, acting on the advice of Mr. Pollock, Dr. Ewens made an exploratory incision, and after some groping discovered loose bone. The ordinary elliptical incision was thus made, the flap dissected up, and the diseased joint fully exposed. The head of the bone was found in a very carious condition, and a portion, shortening the bone by about an inch, was removed by Butcher's saw. The wound was sponged with carbolic acid and oil in the proportion of one part of the acid to four of the oil; the flaps re-adjusted and secured by pins and twisted suture. Sickness due to the chloroform occurred after the operation, but passed off in the course of twenty-four hours. She progressed favorably for ten days, when a slight rheumatic attack supervened, which was cured by ammonio-citrate of iron and bicarbonate of potash. From this date she gradually improved; but a small sinus still remained, which indicating more diseased bone, necessitated a further operation. A small portion of the shaft was again removed, and rapid recovery followed.

Fourteen months afterward the arm was two inches shorter than the other. There was perfect use of the arm for underhand work, and power to move it behind her and to bring it forward on the chest. There was,

however, no power to raise the arm. In the second case, a large abscess had formed beneath the right pectoral, and had been opened; a sinus remained beneath the outer part of the mamma, behind the pectoral muscle, into the axilla, but a long probe failed to reach diseased bone, or to find the end of the sinus. Careful examination elicited the history of a blow over the front of the shoulder three years prior to the opening of the abscess with an account of symptoms of joint disease, but ascribed to rheumatism, in the intermediate period. A swelling was found on the back of the shoulder, and opened by Dr. Ewens, and curdy pus was evacuated. Her general health improved, but several times spots of erratic erysipelas appeared on the arm, speedily subsiding under the local application of strong tincture of iodine. As the sinuses did not heal up, an explanatory incision was determined upon, and the wound at the back of the joint was enlarged so as to enable the finger to be introduced under the deltoid, which was then cut through transversely a little below its origin from the spine and acromion process of the scapula, and the joint was thus laid open posteriorly.

There was little hemorrhage. The head of the bone was found to be completely carious, with a large sequestrum in its centre. The posterior half of the deltoid being thus divided horizontally, a perpendicular incision carried through its whole length down to its insertion into the humerus fully revealed the parts to be removed. The patient being very fat, Butcher's saw could not be conveniently used, and the bone was therefore sawn through with an ordinary finger saw, the portion removed representing a shortening of about two inches. The wound was dressed as in the former case, and the patient made a more than ordinarily quick recovery, she being perfectly well in three months. The result now is that the arm is as useful as ever for underhand work; she can lift as heavy a weight as before, and is now, and has been for the last ten or twelve months, managing a dairy. Besides, she can raise her arm forward and upward in a manner that could only be accomplished by the action of the anterior fibres of the deltoid muscle; and with practice Dr. Ewens fully expects much greater power will be gained.

#### Pitting from Small-pox.

Dr. RENDLE, of Park Hill, Clapham Park, sends to the *Practitioner* the following: The terrible seaming and pitting of the face, neck, and other exposed parts of the body so often consequent on bad attacks of small-pox are universally known. Reference, however, is seldom made to the total exemption of the scalp from marking of any kind, after even the severest form of this disease. During the last few years I have habitually sought out and examined men and women badly marked



from small-pox, for the purpose of ascertaining how often, and to what extent, the scalp was also marked. Many cases have passed under my notice in prisoners admitted to the Government prisons. The scalp in every case was without a trace of marking. I have repeatedly seen both men and women seamed and pitted as badly as possible, but I have invariably found that all marking ceased at the border of the hair. The covering afforded by the hair had evidently preserved the scalp from injury and from subsequent pitting.

It recently occurred to me from watching a photographer using cotton-wool to shut out light in the process of "vignetting" photographs, that this material, if applied to the face and neck of small-pox patients, might give a protecting influence somewhat similar to that afforded to the scalp by the hair, and thereby prevent or modify the subsequent pitting.

I have now two cases convalescent from small-pox, in which I applied cotton-wool to protect the face. The disease in each case was of the distinct form. One of the two, a girl, age fifteen years, had an abundant eruption, which, in the unprotected parts of the body, went through the usual consecutive changes. In both cases, the parts covered with the wool are left without a vestige of marks.

The mode of application was as follows:—On the first appearance of the eruption, patches of skin about an inch square were washed over with collodion, and immediately covered with a thin uniform layer of fine wool; the wool readily adheres if applied before the ether of the collodion evaporates. When the whole of the face, etc., was thus covered, the wool was brushed over with a solution of starch or gum. The starch or gum was occasionally reapplied to the edges of the wool to prevent any shifting by the movements of the face. This covering was kept on until the dry crusts fell off the other parts of the body.

These cases are not given with the conviction that the disfigurement resulting from small-pox may be invariably prevented, but rather for the purpose of calling attention to, and inviting further trial of, this mode of treatment.

#### Quinine in Ague.

The following remarks from the *Practitioner* on this subject are from the pen of Dr. AUGUSTE NONAT:

The mode of employment of sulphate of quinine in simple intermittent fever must depend upon four main conditions.

1. We must take into account the *intensity* of cause, and therefore make inquiry concerning the locality where the disease was contracted; for instance, Algeria, Paris, Rome, Solongue; the causes being more or less powerful according to the infecting localities.

2. The oldness of the complaint must be

taken into serious consideration. The older the fever, the stronger must be the dose of quinine.

3. The type of the fever. Thus quartan fever requires a much larger dose of quinine than the quotidian or tertian type.

4. The degree of tumefaction of the spleen. And, indeed, when the spleen is not enlarged, *ceteris paribus*, the dose of sulphate of quinine should be smaller; and on the other hand, the larger the tumefaction of the spleen the more must we increase the dose of the remedy.

In quartan fever the patient has two good days out of three; he may do his work, attend to his ordinary occupations, and not call in the doctor. Meanwhile the complaint becomes more intense—*vires acquirit eundo*. This, therefore, turns out an old case, and may be coupled with my second condition, namely, the *oldness* of the disease. Indeed it is much on this account that the quartan type is less amenable to treatment than the tertian or quotidian.

We may therefore reduce to three, the rules to which I have referred, and put it down that, in order to determine the due amount of remedy which it is necessary to exhibit, we must take into account the *intensity of the cause, the oldness of the disease and the state of tumefaction of the spleen*.

Next comes the question of the amount of quinine which it is suitable to administer at the outset of the treatment. When called to the bedside of a patient laying under fever, by what dose must we begin? In a general way the dose will vary from 5 to 23 grains. The *minimum* dose will be administered in recent cases of simple intermittent fever unattended by tumefaction of the spleen; the *maximum* in old cases of intermittent, accompanied by considerable enlargement of the spleen, whilst the intermediary doses will suit intermediary cases. But it should be borne in mind that *whatever* the spleen is enlarged, at least 10 to 12½ grains should be administered every day at the outset.

This remark leads to another important question; namely: the order of administration of doses, with regard to strength, and the duration of the use of quinine.

Experience leads me to set down that the maximum dose must be immediately given to commence with, that it must be continued four or five days, and that we must then go on, gradually decreasing the dose, till complete resolution of the enlargement of the spleen has taken place. Thus, for example, if we begin with 23 grains, I should say 23 grains for five or six days, then 15 grains for five or six days more, then 7½ grains for the same space of time, and so on. The total duration of exhibition of the drug will generally take about three weeks; still, after this time, however, we must not suspend its use, but continue giving some small doses

from time to time, in order to keep up the action of medicament.

Another important point is the necessity of keeping up the patient's strength during treatment, and of giving him a proper amount of food. I have observed that sulphate of quinine is far better tolerated by patients who are properly fed. Thus, on the very first day, as soon as the access is stopped by quinine, I am accustomed to allow my patient his ordinary number of meals, or only to lessen them according to circumstances. The stomach puts up much better with the remedy, and the gastralgic effects of quinine are thus much seldomer noticed than when diet is enforced.

The mode of the treatment which I have now described succeeds equally well with the quartan type as with others, which shows that the quartan type proves refractory only because the treatment is not appropriate and consists of too feeble doses at the outset.

Another point of practice which well deserves to be mentioned is the necessity of inquiring into the state of the stomach before administering quinine. If the organ is diseased, the full effects of the remedy will not be obtained, and it may even prove injurious. We must in these cases have recourse to enemata. The sulphate of quinine exhibited in this form is quite successful. If both rectum and stomach are diseased, we must then employ the cutaneous method. A mixture composed of hog's lard 7 drachms, sulphate of quinine 1 drachm, and alcohol  $\frac{1}{2}$  fluid drachm, well rubbed into the skin, has often afforded me very satisfactory results.

Opium may also be associated with quinine with great advantage when the alimentary canal is diseased.

#### Dangers of Chromic Acid.

M. GUBLER remarks in the *Edinburgh Medical Journal*, that chromic acid is one of the most powerful of caustics. Only the monohydrous sulphuric acid at all approaches it in strength. It acts rapidly, setting free a considerable amount of heat, so that the temperature may rise to 125 or 150 degrees. If we plunge a small animal, such as a mouse, into a concentrated solution of chromic acid, it is instantly reduced to a cinder; and the ebullition is so great that unless care be taken, the mouse and a part of the solution are forcibly ejected.

This caustic applied over an extensive surface may therefore give rise to a deep slough. Further, the absorption of chromic acid is not free from danger, and patients have been poisoned by a too extensive application of this caustic to the surface of their bodies.

—Medical Director William M. Wood has resigned, and Medical Director Jonathan M. Folz has been appointed in his place as Chief of the Bureau of Medicine and Surgery, in Washington.

## Reviews and Book Notices.

### NOTES ON BOOKS.

Messrs. Dodd & Mead announce for publication "The Sciences of Nature versus the Science of Man," by NOAH PORTER, D. D., LL.D., President of Yale College. The book is in some part a review of the arguments of Huxley, Spencer and others, and aims to prove that on the principle of many of the current philosophies which claim to be conducted in the spirit of the Inductive Philosophy, it is impossible to have any trustworthy induction at all.

Mr. DARWIN, the author of "The Origin of Species," is reported to be engaged upon a new work, in which the facial expression of animals will be one of the chief topics discussed.

We note the first numbers of a new medical journal, which has lately made its appearance in Lisbon with the title of *O Correio Medico*, under the able editorship of Dr. ALVES BRANCO, Physician to the Royal Hospital of San José, and of Dr. SILVA AMADO, Pathologist and Curator of the Museum at the Royal School of Medicine of Lisbon.

Macmillan & Co., announce "On the Nature, Origin, and Use of Wine," by Drs. THUDICHUM and DUPRÉ, a work telling of wine-making processes, and giving statistics of production in various places, chemical analyses of different wines, etc., etc.

Among the London announcements is "The Secret of Long Life," dedicated by special permission to Lord St. Leonards. Inasmuch as his Lordship (better known as the Mr. Sugden who wrote a great law-book on "Powers," sixty-six years ago) is now nearly ninety-one, the dedication is appropriate.

A quarterly journal, the "Archives of Anthropology and Ethnology," has been published at Florence since the beginning of this year. This does not appear to have any official connection with a society recently established in Italy, for the study of the same subjects, but seems to be the property of the editors, who are Professor MANTEGAZZA, known for his researches on coca, and on the spermatozoa, and Dr. FINZI, an orientalist of some

repute. The typography and engravings are equal, if not superior, to the very best English periodicals; the scientific value of the matter they convey and illustrate seems very variable. The editors make an opening statement of their views, which are Darwinian and materialist in the extreme, and this produces an air of narrowness and dogmatism which hardly suits "libres penseurs."

### BOOK NOTICES.

**The Physician's Visiting List for 1872.** Twenty-first year of its publication. Philadelphia: Lindsay & Blakiston.

The popular visiting list of these enterprising publishers is ready with its usual promptness, and will doubtless be received with its former popularity.

**The Druggist's General Receipt Book: Comprising a Copious Veterinary Formulary; with numerous recipes in patent and proprietary medicines, druggists' nostrums, etc.; perfumery and cosmetics; beverages, dietetic articles and condiments; trade chemicals, scientific processes, and an appendix of useful tables.** By HENRY BEASLEY. Seventh American, from the last London edition. Philadelphia: Lindsay & Blakiston, 1871. 1 vol., 8 vo., cloth, pp. 497. Price \$3.50.

The retail druggist will hardly find a general reference book better calculated to serve his purpose in the retail trade, than this of Mr. BEASLEY. What its contents are, is sufficiently shown by the title page, which we quote above. The veterinary formulary is quite extended, covering about one hundred and fifty pages. We are disappointed, however, to find so little use made of Prof. JOHN GAMGEE's formulas, as he is certainly the most able veterinarian in England; while YOUATT, whose views are more antiquated, figures too conspicuously. We may also criticise an intention visible on various pages to serve the trade at the expense of the customer. Why, for instance, give various recipes for hydrophobia, when it is morally certain they are all fruitless? Why inform the druggist and thus tacitly recommend the use of imitations of various articles likely to be called for. Reserving some points of this character, we can speak highly of the book as a careful compilation, well arranged, and full of useful knowledge.

**The Physician's Dose and Symptom Book: Containing the doses and uses of all the principal articles of the materia medica and official preparations; also, tables of weights and measures, rules to proportion the doses of medicines, common abbreviations used in writing prescriptions, table of poisons and antidotes, index of diseases and treatment, pharmaceutical preparations, table of symptomatology, outlines of general pathology and therapeutics.** By JOSEPH H. WYTHES, A. M., M. D., late Surgeon U. S. Vols., etc. etc. Tenth edition. Philadelphia: Lindsay & Blakiston, 1871. 1 vol., 16mo., pp. 277. Price, cloth, \$1.25.

That the present is the tenth edition of the above work, removes from us any obligation to express ourselves upon its merits; and that the title page bears such a striking resemblance to a table of contents, relieves us from the necessity of mentioning what the work embraces. It is enough to say that the publishers seek, by careful revision, to have it as accurate as may be; and that it contains a very good index.

### The Assay of Opium.

STAPLE's is the United States official process for the morphometrical assay of opium. The opium is first macerated with five times its weight of water for forty-eight hours, then exhausted with cold water, the infusion evaporated to about eight times the weight of the opium, and about an equal volume of official alcohol added; to this an excess of ammonia, previously mixed with alcohol, is added in two portions, after an interval of twenty-four hours; at the end of twenty-four hours the deposited morphia is first washed with a little diluted alcohol, then with water; dried and weighed.

### Foot and Mouth Disease.

The cattle disease, which for many months has been attacking the cows, bullocks, sheep and swine in Great Britain, still prevails, and shows no sign of abating in virulence. From recent statistics it appears that animals are extensively affected by the disease in thirty counties in England and in twenty-three counties in Scotland. The "foot and mouth" disease, according to high authorities, has been known in Norfolk county, England, for over thirty years, and no effectual remedy against its ravages has been discovered. Prominent English veterinary surgeons, however, are reported as having arrived at the conclusion that the disease, if allowed to run its course without interference, seldom destroys the affected animal.

## MEDICAL AND SURGICAL REPORTER.

PHILADELPHIA, NOVEMBER 4, 1871.

S. W. BUTLER, M. D., D. G. BRINTON, M. D., Editors.

Medical Society and Clinical Reports, Notes and Observations, Foreign and Domestic Correspondence, News, etc., etc., of general medical interest, are respectfully solicited.

Articles of special importance, such especially as require original experimental research, analysis, or observation, will be liberally paid for.

To insure publication, articles must be *practical, brief* as possible to do justice to the subject, and *carefully prepared*, so as to require little revision.

Subscribers are requested to forward to us copies of newspapers containing reports of Medical Society meetings, or other items of special medical interest.

We particularly value the practical experience of country practitioners, many of whom possess a fund of information that rightfully belongs to the profession.

The Proprietor and Editors disclaim all responsibility for statements made over the names of correspondents.

### INSANITY AS A NATIONAL TRAIT.

At the last annual general meeting of the Medico-Psychological Association of Great Britain, that eminent alienist, Dr. HENRY MAUDSLEY, who is President of the Association, quite took the breath away from the members present by his opening address.

It bore the modest title "Insanity and its Treatment," but proved to be heretical in the highest degree, and indeed to be redolent of utter and entire scepticism. He treated three subjects: The prevention of insanity, the sending patients to asylums, and the treatment by sedatives; and he answered them—insanity cannot be prevented until we arrive at some future state of human existence in which we shall all live in the light of right reason; patients get much better out of asylums than in them; and do not give sedatives, or you will probably poison your patients. Now, probably Dr. MAUDSLEY framed his address with the object of exciting discussion. If he did he has certainly been successful, for naturally the superintendents of asylums, who are thus attacked on what all physiological investigation proves to be the most sensitive part of man, the Achilles' heel where the toughest skin is vulnerable, to wit, the pocket, are

sorely exercised at these statements of so great a man.

But what it is our design to speak of at present is the unquestionable connection between insanity and genius, or extraordinary talents, which Dr. MAUDSLEY believes to exist. The notion is not new. Indeed, men of genius themselves have often spoken of it. Who does not recall the exquisite little poem of BERANGER, *Les Fous*? And a classical quotation is floating in our mind, though we do not at the moment recall its exact words, wherein a Latin poet notes the same connection.

Strong confirmation of this view is found in the fact that as enlightenment advances, as the cranial capacity increases, and mental labor is encouraged, mental alienation likewise augments.

One of the most instructive and delightfully written papers in proof of this which we have met for a long time, is one by Dr. WILLIAM GOODELL, of this city. It may be found in the *Atlantic Monthly* for November. Dr. GOODELL lived for many years in Constantinople, and had full opportunities to investigate the mental pathology of that mixed population. He has also had at his command the unpublished statistics of the public asylum erected and supported by the Sublime Porte.

The fact is placed beyond doubt by his researches that the tendency to insanity among the native Turks is far less than among other European nations, and even less than among the native Christians of Constantinople. The same is true of suicide, which is doubtless often a consequence of insanity. On this point Dr. GOODELL says: "For the merest trifles, over five thousand Frenchmen annually perish by their own hands; full as many Britons 'sneak to death'; but what Turk was ever known to commit suicide? His only fireside is a brazier of charcoal; polished arms bristle in his girdle; deadly poisons are sold over his grocer's counter; his highway, the Bosphorus, seethes with venomous currents; and yet an implicit belief in *Kismet* or Fate,



renders him so undemonstrative of joy or sorrow, so patient under disheartening calamities, that he never basely skulks from life, but with austere apathy waits for the tidal wave of adversity to ebb."

An analysis of the causes of insanity among the Osmanlee reveals the singular fact that the most frequent sources of aberration among European Christian nations are next to unknown among them. Neither vicious sexual excess (though very common), nor mental strain, nor religious excitement, nor fear, nor anxiety of business, nor love, nor a sense of wounded honor, nor a fanatical enthusiasm for country or family, disturb the mental equilibrium of this singular race. The writer we are following says:

Foremost among the causes of Eastern insanity stand opium-eating and the use of the Indian hemp. Next in rank is the abuse of alcoholic drinks, especially of those European spirits, which, being distilled from anything under the sun except the forbidden "juice of the grape," are affected by even the greenest turbaned casuist, who would perch at the stake sooner than sip a thimbleful of wine. In Constantinople and in other seaports, where the attrition of commerce has rubbed off many of the incrustations, and, alas! much of the Oriental enamel, intemperance begets the largest per centage of lunatics.

In the provinces where the the habits of the people are more primitive, and where the spirit as well as the letter of the Koran is observed too strictly to sanction the use of any intoxicating beverages, almost all the lunatics are victims to the habit of opium and hashish eating. A rapid decay of mind and body is also produced by the use of other deleterious drugs, sold over every counter, and largely employed by Turkish sybarites. Space is wanting to dilate upon this interesting subject of Oriental poison-eaters. Suffice it to say that arsenic is used as a depilatory; cantharides and nux vomica are habitually taken as aphrodisiacs, or else stealthily administered as philters, whilst corrosive sublimate is swallowed for the purpose of enhancing the dreamy narcotism of opium. This resort to *arsenium*, or corrosive sublimate, is inevitable; the *Theriaki*, or opium eater, may shiver awhile on the brink of the abyss, but into it he must plunge sooner or later.

Coffee, tobacco, and opium, conjoined with a secluded, monotonous life, chiefly bring about mental overthrow in the Mohammedan women.

We have not space to enter further into this striking essay on comparative national psychology. It opens a realm of thought and study which is of not less interest to the student of man, in his normal condition and ethnic traits, than to the physician who studies his kind, in individual examples, in their subjection to abnormal pathological influences.

#### SMALL-POX IN PHILADELPHIA AND ELSEWHERE.

Last week the deaths from small-pox, in this city, numbered seventy-four—nearly half of them adults. The public is alarmed, and with reason, for the ravages of this dreaded disease in Paris and London the last two years have been such as to recall, though somewhat faintly, the terrible pictures of its devastation, which are contained in medical treatises, before the days of inoculation and vaccination.

Active measures have been taken by the public authorities to extend the facilities of vaccination, and to impress upon the public mind the importance of this simple precautionary measure. Except among the lowest class of population there is no objection to its reception, and all that is needed is energetic action on the part of our Board of Health—not a very energetic body, we regret to say—to secure the city entire immunity from the scourge.

At this time the importance of *revaccination* cannot too strongly be insisted upon. We have published, within the last few months, several able articles from foreign writers upon this point, foreseeing the approach of the disease. Through mistaken views upon it, we regret that some eminent medical men have committed themselves to the opinion that revaccination is needless, or indifferent. Such views are contrary to known facts, and fraught with injurious consequences to the community. They are next in character to the folly of opposing vaccination, because once in a million cases it conveys syphilis into the system.

The following instructions for controlling small-pox contagion, were adopted by the Board of Health of the city of Lowell, Mass., as prepared by a committee of physicians, of which Dr. J. GRAVES was president :

#### ISOLATION.

1. Persons attacked with small-pox or varioloid, and all infected clothing of the same, must be immediately separated from all other persons liable to contract or communicate the disease.

2. Nurses and all the infected clothing of such persons must be treated as in quarantine.

3. None but nurses, and the attending physicians, will be allowed access to persons sick with small-pox or varioloid.

4. Patients must not leave the premises until they, together with the bed and clothing have been disinfected, and permission given by some physician of the Board of Health.

#### DISINFECTION.

1. All bedding and personal clothing infected with the small-pox contagion, which can, without injury, must be washed in boiling water.

2. Infected feather-beds, pillows, and hair mattresses, must have contents taken out and thoroughly fumigated, and ticks washed in boiling water.

3. Infected straw and excelsior mattresses must have contents removed and buried, and ticks washed in boiling water.

4. Infected blankets, sheets, and pillowcases, and all articles in contact with or used by the patient, must be washed in boiling water.

5. Personal clothing and bedding, particularly comforters, which cannot be wet without injury, must be disinfected by baking or by fumigation.

6. Instead of using boiling water as the disinfectant, the following chemical process with cold water may sometimes be conveniently substituted: Dissolve in a wash-tub, containing eight gallons of cold water, one pound of the hyposulphite of soda, immerse all the articles of clothing and bedding used by or around the patient, and when thoroughly saturated add half a pint of sulphuric acid, first diluting it with one gallon of water; stir the whole and allow the clothes to soak an hour, then wring them out, rinse three times in cold water, and hang out to dry.

7. Disinfection of houses, clothing and bedding by fumigation may be effected by filling the closed rooms with the fumes of sulphuric acid, or of chlorine gas. The first can be accomplished by putting half a pound of sulphur in an iron dish, pouring on a little alcohol and igniting it, thereby causing the sulphur to burn and give off sulphurous acid fumes. The second can be accomplished by moistening with water four pounds of chloride of lime, contained in an earthen or wooden vessel, and adding thereto a pint of muriatic acid, to liberate the chlorine gas. Clothing and bedding, to be well fumigated, must be separated as much as possible, and hung upon the walls and furniture of the room, so that everything will be thoroughly permeated. The rooms should be kept closed an hour or two after being charged with gas by either method, and then thoroughly ventilated. No attempt should be made to fumigate the sick-room in this manner, while it is occupied by the patient.

8. On the recovery, removal or death of every case of small-pox or varioloid, the clothing, bedding, and premises, will be disinfected, in accordance with the above rules, under the direction of one or more physicians employed for the purpose by the Board of Health.

9. The physicians employed in disinfecting may cause the removal, destruction, or burial, of such infected bedding and clothing as may, in their judgment, seem to require it, of which they shall keep a correct record, with date, kind of article, whether new or old, estimated value, name and residence of the owner. No person shall burn any contagionated articles unless authorized by the Board of Health.

10. The sick-room should be kept well ventilated, with such precautions as not to expose the patient to direct currents of air, and should be occasionally fumigated, slightly, by throwing upon a heated surface a few teaspoonfuls of a solution of carbolic acid, made by dissolving one ounce of crystallized carbolic acid in a quart of rain water. Pieces of cloth may be soaked in this solution and suspended in the room, also in the hall-ways adjoining. All vessels for receiving discharges of any kind from patients must be emptied immediately after use, and cleansed with boiling water. When convalescence has taken place, the patient must be thoroughly washed

in warm water and soap, and put on fresh, clean clothes throughout.

11. Privies, water-closets, garbage-tubs, water-pipes, and all kinds of drains and foul places in houses, stables, and yards, may be disinfected with a solution made as follows. Dissolve eight pounds of copperas (sulphate of iron) in five gallons of water, add one quart of the solution of carbolic acid, and mix well.

12. It should be remembered that there are no substitutes for pure air and water. Let fresh air and sunlight purify every place they can reach; open and dry all cellars; keep the grounds about dwellings dry and clean, and let personal and domestic cleanliness be everywhere observed.

#### ADMITTANCE TO THE PROFESSION IN GREAT BRITAIN.

We have recently received several inquiries from correspondents, designing to pursue their studies abroad, as to the corporations of Great Britain which issue diplomas or licenses to practice.

The supreme body is the General Medical Council which holds and can withhold the right of registration, and lays down certain educational requisites, which it is necessary the applicant for registration shall prove by a certificate from one of the examining bodies he is familiar with.

The General Medical Council fixes twenty-one as the earliest age at which a candidate for any professional license shall be admitted to his final examination, the age in all instances to be duly certified. Previous to this final examination, he must have been registered as a medical student at least forty-eight months, and must have gone through a course of professional study, comprehending attendance during four winter sessions, or three winter and two summer sessions at a recognized school.

The examining bodies themselves are the following:

The University of Oxford, which grants the degrees of M. B. and M. D. The medical student must pass the requisite examinations for

the degree of B. A., and afterward spend two years in study prior to the first or scientific examination for the degree of Bachelor of Medicine, and two years more prior to the final or practical examination for the same degree.

The University of Cambridge, besides M. B. and M. D., grants the degree of M. C. (Master in Surgery). For M. B. five years of medical study are required, except in the case of medical students who have graduated with honors as Bachelors of Arts, four years being then sufficient. The degree of M. D. may be taken three years after M. B. The regulations are similar to those at Oxford.

The University of London stipulates for the M. B. degree—(1) The Matriculation Examination, or a degree of Arts, is accepted from the Universities of either Sydney, Melbourne, or Calcutta; (2) The Preliminary Scientific Examination and two examinations in medicines. The student must also have been engaged in professional studies at least four years subsequent to matriculation. The degree of M. D. may be competed for four years; or in some cases five years after the M. B. degree has been taken.

The University of Durham grants a license in medicine four years after matriculation, M. B. three years later, and M. D. one year later still, provided that the requisite courses are fulfilled and examinations passed. *Licentiate*s and *Masters in Surgery* are also degrees granted by this University. These do not necessarily require that all the examinations for M. B. shall be passed.

The University of Edinburgh confers the degrees of M. B., C. M., and M. D. The first must be passed before either of the others are granted.

The University of Glasgow grants the same degrees and provides curricula and examinations similar to those of the University of Edinburgh.

The same may be said of the University of Aberdeen.

Also the University of St. Andrew's; except that by the latter the degree of Doctor in Medicine may be conferred on any registered medical practitioner above the age of forty years whose professional position and experience are such as, in the estimation of the University, to entitle him to that degree, and who shall, on examination, satisfy the medical examiners of the sufficiency of his professional knowledge; provided always, that degrees shall not be conferred, under this section, to a greater number than ten in any one year.

The University of Dublin (Trinity College) grants the degrees of M. B. M. D., and also licenses in medicine (L. M.) and surgery (L. S.).

The Queen's University in Ireland comprises the Queen's Colleges of Belfast, Cork, and Galway, each of which possesses a Faculty of Medicine. The degrees of M. D. and M. Ch. are granted by this University. The curriculum for either extends over four years, and comprehends the usual subjects.

Besides the foregoing Universities, the following corporations grant licenses to practice:

The Royal College of Physicians, London. There are Licentiates, Members and Fellows of the Royal College of Physicians, London. The licentiates have passed a Preliminary Examination in Arts, and two other professional examinations, besides giving evidence of at least four years of professional education as a registered medical student.

The Royal College of Surgeons, England; the Royal College of Physicians, Edinburgh; the Royal College of Surgeons, Edinburgh; and the Faculty of Physicians and Surgeons, Glasgow.

The King and Queen's College of Physicians in Ireland grants a license in medicine, and also a license in midwifery. A four year's course of medical study is required, and a spe-

cial additional examination for the midwifery qualification.

The Royal College of Surgeons in Ireland grants *Letters Testimonial* and Fellowships.

## Notes and Comments.

### Treatment of the Last Stage of Cholera.

Professor FILIPPO PACINI, of Florence, in a little pamphlet just published, *Sull'ultimo Stadio del Cholera*, is of the opinion that in the stage of apparent death which closes the scene in that disease, the only available means at hand for resuscitation is the injection of salt water into the veins. The places of election for this delicate operation he lays down as the cephalic, brachial, or external jugular veins, and his mixture is 10 grammes of fine salt to one kilogramme of water. He uses at one time 200 grammes of this solution at a temperature of 40° centigrade. After one kilogramme has been injected without effect, he regards the case as hopeless.

### Death of Prof. Maupin.

We regret to learn that Prof. MAUPIN, of the University of Virginia, has been killed by a fall from his vehicle.

### A Well-Deserved Rebuke.

The *Inquirer* of this city having received a "number of communications from members of the medical profession and others, giving certain formulas for the treatment of small-pox," very properly informs the writers that it thinks it inexpedient to publish them. It is not disposed, especially in such a virulent disease as the small-pox, to recommend the "Every One Can Be His Own Doctor," policy. On the contrary, it suggests that "upon the appearance of the first symptoms of the small-pox the patient should call in a physician of acknowledged capacity and submit himself entirely to such direction."

We hope that no respectable physician has undertaken to volunteer his advice in this way in the public prints.

A homœopathist of this city advertises to vaccinate "from the heifer," charging 25 cts. admission for those who desire to witness the operation (!), and we do not know how much more for the vaccination. The experi-



ence of the past few years in Europe has abundantly illustrated the folly of this procedure.

#### Precocious Intelligence.

Dr. BUDD said to Prof. TYNDALL: "From the day when I first began to think of these subjects, I never had a doubt that the specific cause of contagious fevers must be living organisms." Of this utterance the *British Medical Journal* remarks, that "it is, of course, a very interesting proof of early wisdom, but it is not of the nature of a strict demonstration."

#### To Dissolve Santonin.

Santonin is difficult of solution, but it may be accomplished in the following manner:

R. Santonin, in pulvere,	gr. xij.
Sodæ bicarbonatis,	gr. xx.
Aquæ destillatæ,	f. ʒijj.

Put the soda and water into a flask, keep the fluid near the boiling point, adding, as it disappears, about two grains of the santonin at a time, until the whole is dissolved. Solution is effected in about half an hour, during which time the water is reduced to f. ʒij. If need be, reduce by boiling to this bulk, when f. ʒij. will contain a full dose—six grains of santonin. If an alkaline reaction be objectionable, neutralize with acetic acid.

#### Hospital Tents.

In consequence of the panic that now prevails in Great Britain in reference to small-pox and cholera, great fears are entertained that patients suffering from these diseases cannot be isolated from the inmates of other hospitals. Great attention has therefore been paid to the construction of hospital tents, and the *London Times* gives a description of a new form of this description of portable building. The tent is oblong in shape, sixteen feet long by fourteen feet wide, and thirteen feet high to the ridge pole. It has perpendicular canvass walls three feet six inches high, and above these it slopes the remaining nine feet six inches. It is supported by a ridge-pole and three uprights, and incloses 1850 cubic feet. At each end the canvass rolls back from the middle to the sides, and the walls roll up so that the air will sweep from side to side, and end to end. The 224 feet of floor space allows comfortable standing room for four beds, which may be variously disposed. The whole

tent, with poles, pegs and guy ropes complete, weighs 112 pounds, and costs \$67.50 in gold. For severe small-pox cases it is suggested that only two beds should be placed in each tent. It is also suggested that one tent may be regarded as the unit of a large hospital, which may be enlarged as circumstances would demand.

#### The Geneva Convention.

Our readers are aware of the International Sanitary Society, which was formed at Geneva some years ago, "for the relief of the sick and wounded in war," with much acclamation and the hearty recognition of all monarchs but the Pope and the Sultan. The *Militärarzt* for August contains an important piece of news about it. It says the experience of the Franco-German War convinced both French and German leaders that the plans and organization of the Geneva Conference "were premature and without adequate results," and therefore, neither nation will have anything to do with it in future. In place of it they propose a "Military Sanitary Codex" of an international character.

If this is so, one of the most imposing schemes of philanthropy, supported by libraries of speeches, letters, documents and books, has turned out a monstrous piece of impotent pomposity, or else national jealousy has ruined a beneficent enterprise. We await with interest further news.

#### Opium Smoking.

A writer in the *San Francisco Chronicle* says: We watched the operation of preparing and smoking a pipe of opium. The smoker has brought to him a tray on which is a light, a pipe, and a small piece of wire, and a jar of pure opium; the wire is dipped into the opium, then applied to the candle and cooked until the perfume arising therefrom suits the smoker's ideas. It is then carefully kneaded on the surface of the pipe, the top of the bowl being covered, with the exception of a small hole in the centre, and when the correct consistency has been gained by a delicate manipulation with the wire, the opium is worked up into a ball about the size of a small pea, and inserted through the lid of the pipe; the smoker then reclines, and placing the bowl of the pipe against the candle, draws away at the stem for a few seconds—the pipe is empty

and the performance repeated until the smoker becomes stupefied and falls back in a doze to revel in the sensations arising from the narcotic. Its effects are described as being of a most exhilarating kind, and if only inhaled in small quantities it animates the spirits and gives energy to the intellectual powers, and is then followed by a state of quiet, pleasant languor until sleep succeeds; but it is only by increasing the dose that these effects are reproduced. The soporific effects are then of longer duration and the symptoms of debility are greater, gradually but surely leading to softening of the brain.

#### Small Business.

A correspondent informs us that a physician in charge of one of our hospitals, having some cases of cancer under his charge and desiring to try the efficacy of "cundurango," applied to the State Department for a sample of this drug, and that in reply he received the following printed circular letter:

DEPARTMENT OF STATE,  
WASHINGTON, OCT. 3, 1871.

SIR: In compliance with your wishes I inclose a copy of the correspondence which has passed between this Department, the minister of Ecuador accredited to the United States, and the minister of the United States at Quito, relative to the discovery of the vegetable called "cundurango." The limited quantity of that vegetable with which this Department was furnished has been exhausted, and no more is expected. It is, however, understood that Dr. D. W. BLISS, a physician of Washington, has imported some on his own account, and, perhaps, on application to him, a supply may be furnished you.

I am, sir, your obedient servant,  
J. C. BANCROFT DAVIS,  
Assistant Secretary.

Now we simply want to know what right the State Department has to act as the advertising agent of Dr. D. W. BLISS, or any other man? Will somebody tell?

#### Incidents of the Fire in Chicago.

The Cincinnati *Gazette* quotes the following from the letter of a lady to a friend in that city: "Every day new incidents connected with the fire come to our knowledge, making the horrors stand out in more fearful colors. Only think of twenty-five children being born in one night in the basement of one church,

and sixteen in another! The physicians estimate that five hundred infants were born that fearful day and night, many of them burned to death as soon as they saw the light. The wife of one of our leading druggists gave birth to an infant in Lincoln Park, and many scores first saw the light (the light of lurid flames, instead of God's blessed light of day) among those pleasant walks and drives."

#### Singular Instance of Somnambulism.

Some friends visited LA FONTAINE one evening and found him asleep. While talking with his wife, La Fontaine entered in his nightcap, without shoes or stockings, just as he had risen from bed. His eyes were half open, but he evidently saw no object; he crossed the dining-room where the party were sitting, went into a little closet or cabinet that served him for a study, and shut himself up in the dark. Some time after, he came out, rubbing his hands, and testifying much satisfaction, but still asleep; he then went through the dining-room, quite unconscious of the presence of any one, and retired to bed. His wife and friends were very curious to know what he had been about in the dark. They all went into his study, and found there a fable newly written, the ink being still wet, which brought conviction that he had written and composed it during his dream. The admirers of this most original author may wish to know which fable was composed under these extraordinary circumstances. It is one that is replete with the most natural and touching language—it is that which unites the utmost grace of expression language is capable of—in a word, it is the celebrated fable of *The Two Pigeons*.

#### Cholera

Has broken out very severely in Constantinople. A Constantinople telegram states that the Government has ordered a sanitary cordon to be drawn around one of the quarters in Pera ravaged most severely by the cholera. No one is permitted to cross this cordon. The local journals severely criticise this measure as useless, and tending to spread a panic among the inhabitants of the quarter, besides exposing them to privations. A medical man and a priest, purposing to tend the sick, have been prevented crossing the cordon.

## Correspondence.

## DOMESTIC.

## Sunflower Seed in Whooping Cough.

EDS. MED. AND SURG. REPORTER :

In your issue of MEDICAL AND SURGICAL REPORTER, Oct. 14, 1871. on page 350, I noticed an article on the "Valuable Properties of Sunflower Seeds." The article referred to very elaborately enumerates many of the good virtues of this plant, but in the whole enumeration of its good qualities mentioned in the article cited, I think the most important has been omitted. In the year 1859, during an epidemic of *whooping cough*, I had about exhausted the whole list of "highly recommended" and perfectly reliable remedies for this complaint without receiving the satisfaction and benefit anticipated.

At this juncture I was induced by an old German lady to test the virtue of sunflower seeds, which I did in the following manner: I procured about one pound of sunflower seeds, bruised them thoroughly in an iron mortar, then poured on about three pints of whisky (after removing the seeds to a bottle) and let digest about seven days. Of this tincture I would take about four ounces, and pour it into about half a pint of water previously well sweetened. To a child one year old I would order tablespoonful doses every three hours, or oftener, as the urgency of cough required. The remedy thus prepared is very pleasant to take, and is seldom resisted by the child after it once gets a taste of it.

This simple remedy has given more satisfaction in my hands than cochineal, or any other means that I have ever used for whooping cough. I simply mention the above facts without attempting to explain the *modus operandi* of its action, or by what reason it produces the good results that are certain to follow its administration. In fact I am so well pleased with it that I use nothing else in an ordinary uncomplicated case of the disease; and I very much question if there exists any remedy that will more promptly soothe and allay the troublesome paroxysms of cough, and more rapidly conduct the malady through its stages to its ultimate termination, than will the seeds of the ever familiar sunflower, prepared as above. Yours respectfully,

O. C. FARQUHAR, M. D.

Putnam, Ohio, Oct. 24, 1871.

## News and Miscellany.

## The Medical Profession in Russia.

The *Medicinische Central Zeitung* gives some interesting particulars about the singular scarcity of physicians in Russia. The population of that country in 1870, was estimated

at 79 millions, while the whole number of physicians, according to the report of the Minister of the Interior, for the same year, was but 10,000, or one to 7,182 inhabitants; while in the United States there is one to 800 inhabitants at least. The lower classes in Russia have no notion of sanitary laws, and hence suffer frightfully from pestilence every few years.

## Small-pox.

There have been numerous rumors in regard to the prevalence of small-pox in this city. The reports received at the Health Office show the following as the number of cases during the months named:

July .....	15
August .....	58
September .....	110
October .....	942

In the October statement only three weeks are included. The reports for last week, however, show that the disease is decreasing. The Twentieth Ward is the portion of the city most affected, the reports up to last Saturday showing that 351 cases had occurred there.

The following statement shows the number of deaths from small-pox in the city during the years stated:

1860 .....	57	1866 .....	144
1861 .....	758	1867 .....	48
1862 .....	264	1868 .....	1
1863 .....	171	1869 .....	6
1864 .....	260	1870 .....	9
1865 .....	524	1871 .....	198

## Suicides in France.

The suicides that occurred in France, in 1869, numbered 5,114, against 5,547 in 1868. Of the 5,114 suicides that occurred in 1869, the males number 4,113, or about four-fifths, and the females 1,001. With regard to the age of the persons who destroyed themselves, 37 were under sixteen and 1,432 over sixty. Among the causes attributed, poverty was assigned in 474 cases; family troubles, 571; love and jealousy, 222; insanity, 1,516; physical suffering, 591; intoxication, 664, and crime, 26.

## Anecdote of the Rev. Dr. Haughton.

The Rev. DR. HAUGHTON, Fellow of Trinity College, Dublin, is a gentleman of the most versatile talents, and of the most undoubted courage. He is both a clergyman and a physician, and is at the same time an authority on all anatomical matters, and one of the chief zoölogists living. He is the secretary to the Zoölogical Society in Dublin, and in that capacity, combined with his surgical skill, has more than once "bearded the lion in his den" in a perfectly literal sense. Lately, however, a very large lion went to Dublin, and Dr. Haughton's courage was again called into requisition. The Lord Lieutenant's secretary wrote to Dr. Haughton, asking him to summon a meeting of the council, on Sunday, to

receive the Prince of Wales and the rest of the Royal party. Dr. Haughton wrote a very polite rejoinder, saying he would do nothing of the kind. The secretary called on Dr. Haughton, believing there must be some mistake, but was informed there was no mistake on the Doctor's part. The Prince of Wales was quite at liberty to visit the gardens on a Sunday, like other people, but the reverend secretary saw neither the necessity nor the propriety of calling together the council on that day, in order to give him a formal reception.

#### Instances of Longevity.

Hon. HORACE BINNEY, LL.D., born in Arch street, above Fifth, Philadelphia, January 4th, 1780, graduated at Harvard College, 1797, is still living. Lords ELDON, STOWELL, MANSFIELD, BROUGHAM, and LYNDBURST died between the ages of 86 and 92. LYNDBURST, the oldest, was 91 years, 4 months and 21 days; but Mr. BINNEY is 91 years, 9 months and over. SUGDEN, Lord St. Leonards, born February, 1781, is still living, though several times killed off by the papers. When Dr. ROUTH, for more than 63 years President of Magdalen College, Oxford, was nearly 100, some one remarked to him, "That is a pretty good old age." "Yes," replied the Doctor, "but there was a dissenting minister who died at 107, and," continued the old gentlemen, "I should like the Church to win."

#### QUERIES AND REPLIES.

##### Obscure Cases.

case you describe too vaguely. The very point we looked for first—his age, whether married or single, and condition of urino-genital organs—you seem not to have taken into consideration. We suspect trouble there Dr. Hammond "On Diseases of the Nervous System" might enlighten you.

##### Injection of Matico.

Dr. B., of Ky.—This is a sort of proprietary preparation, not patented, but the precise formula is not generally known. Inquire of E. Fougere & Co., of New York.

##### Rabelais.

Dr. S. T. P., of Va.—You are right in saying that Rabelais was a physician. But your critic was also right in asserting that he was a monk. He joined first the Franciscan, and afterward the Benedictine Order, but deserted both in more mature years in order to study and practice medicine. He may with entire propriety be claimed as "one of the most eminent physicians of the sixteenth century," as you very justly term him.

#### OBITUARY.

##### SIR RODERICK I. MURCHISON.

Sir Roderick Impey Murchison, the eminent British geologist, died October 22d, in England. He was born in Taradale, Scotland, in 1792, and was educated at Durham School and the Military College of Marlow. He served in Spain and Portugal with the 36th Regiment from 1807 till 1816, and afterward became Captain in the 6th Dragoon.

goons. About 1822 he was induced by Mrs. Murchison and his friend, Sir Humphrey Davy, to devote himself to those scientific pursuits which have since conferred such merited distinction on his name. In 1831 he began a systematic examination of the older sedimentary deposits in England and Wales, and, after seven years' labor, he succeeded in establishing what he termed the Silurian System, comprehending a succession of strata, previously unknown, which lie below the old red sandstone. In 1839 he gave the result of his researches in the elaborate work entitled "The Silurian System," which was illustrated by five geological maps (one map alone cost \$7,500), and 106 plates of fossils, and fine wood-cuts. This work at once placed him in the foremost rank of geologists, and gave a strong impulse to geological science.

In 1840, Capt. Murchison, in company with M. de Ver-null and Count Keyserling, began, at the request of the Czar Nicholas, a geological survey of the Russian Empire. The results of this survey were published in 1845, in two large volumes, profusely illustrated, which were translated into the Russian language by Col. Oseraky. The Czar signified his appreciation of Capt. Murchison's services by presenting him with a magnificent colossal vase of Siberian aventurine, mounted on a column of porphyry, and by conferring on him, with other marks of distinction, the Grand Cross of the Order of St. Stanislaus.

In 1846, upon his return to England, Capt. Murchison received the honor of Knighthood, and continued to take a leading part in diffusing knowledge regarding the formation of the earth. In 1854 he published a second edition of "Siluria," with a brief sketch of the distribution of gold over the earth. In 1855 he succeeded Sir H. De la Beche in the office of Director-General of the Geological Survey of the British Isles. Sir Roderick served four terms as President of the Geological Society, and has been over 20 years President of the Royal Geographical Society. He contributed upward of 120 papers to the Transactions of various scientific bodies, and during a number of years delivered anniversary addresses to the Geographical Society, which were valuable reviews of the progress made in geographical and geological knowledge. Sir Roderick was the first who publicly expressed the opinion that gold must exist in Australia. He received numerous honors from scientific bodies, and was a member of all the principal academies of Europe.

The deceased scholar was the representative of the class of diligent investigators who are never weary and never content. Science was his passion. So long as a doubt existed, he was eager to investigate; an unsolved problem pliqued him, and his industry was stimulated by obstacles which to other men would have seemed insuperable. Rich in years and in honors, he passes away to give place to younger scientists, who will profit by the great discoveries he has made, and by theories he has expounded.

An admirable trait in his character was the deep interest he felt in the fate of Dr. Livingstone. He was never tired in his efforts to learn tidings of his distinguished friend, and to the last had firm confidence in his safety. We trust that the death of Sir Roderick Murchison is not the death of hope of the safety of Dr. Livingstone.

#### MARRIED.

SHAW—ALLEN.—October 12th, in the U. P. Church, Hoboken, N. J., by the Rev. H. H. Blair, assisted by the Rev. W. T. Findley, D. D., Dr. A. B. Shaw, of St. Louis, and Miss Favola Allen, eldest daughter of the late Rev. Henry Allen, of Hoboken, N. J.

WHITALL—CULBERTSON.—October 18th, by Friends' ceremony, at the residence of the bride's mother, in Brooklyn, Dr. Samuel Whitall, of New York, and Frances Cornelia, daughter of the late Rev. M. S. Culbertson, D. D., of Shanghai, China.

WHITE—STARR.—October 25th, at the residence of the bride's parents, by the Rev. James White, Dr. J. Orlando White and Lizzie, daughter of Jesse W. Starr, Esq., all of Camden, N. J.

#### DIED.

BAHNSEN.—August 24, 1871, of puerperal convulsions, Adelaide H., wife of Henry T. Bahnson, M. D., of Salem, N. C.

RICHARDS.—In New York, October 21st, Dr. Wolcott Richards, aged 68 years.

WADSWORTH.—In New York, October 22d, Mary Ellen, wife of Dr. Samuel D. Wadsworth, and daughter of the late George Higgins, aged 27 years.